

### **REMARKS**

Claims 1-41 were pending at the time of the Action. Applicant hereby affirms the election of the invention of Group II, Claims 8-20. Claims 1-7 and 21-41 have been canceled as being drawn to a non-elected invention without prejudice or disclaimer. Claims 42-43 are new. Support for Claims 42 and 43 can be found, for example, in Figure 1, and in the Specification on page 8, line 10 – page 9, line 3.

Claims 9-13 stand rejected under 35 U.S.C. § 112, second paragraph. Claims 8, 9, 14-18 and 20 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,700,417 to Fernyhough et al. ("Fernyhough"). Claims 10-14, 16, 18 and 19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Fernyhough in further view of U.S. Patent No. 4,434,121 to Schäper ("Schäper").

Applicants hereby request further consideration of the application in view of the comments that follow.

#### **Section 112 Rejections**

Minor clarifying amendments have been made to Claims 9, 10 and 12 above to address the rejections under 35 U.S.C. § 112. Applicants submit that such amendments do not affect the scope of the claims.

Applicants respectfully request that the rejection under § 112 be withdrawn. However, if the Examiner finds that the amendments do not overcome the rejection under § 112, Applicant solicits the Examiner's suggestions as to satisfactory amendment.

#### **Section 102/103 Rejections**

Claim 8 recites a method of forming a fiber-reinforced plastic article, said method comprising the steps of:

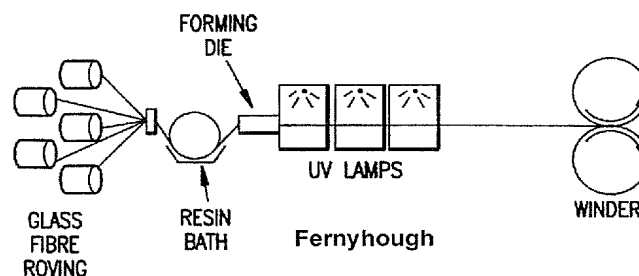
- continuously pultruding a fiber-reinforced plastic article to form a fiber-reinforced plastic article having a first partially cured state;
- continuously shaping the first fiber-reinforced plastic article having the first partially cured state into a spirally wound shape; and then
- curing the fiber-reinforced plastic article having the first partially cured state to form a spirally wound fiber-reinforced plastic article having

a second cured state that is more rigid than the fiber-reinforced plastic article having the first partially cured state.

The Action takes the position that Fernyhough discloses the above recitations of Claim 8, and page 6 of the Action states as follows:

Since there are no steps required to occur between pull treating a fiber-reinforced plastic article heading a first partially cured state and curing the fiber-reinforced plastic article having the first partially cured state, Fernyhough teaches this by the incremental curing of the product during the radiation exposure (see col. 1, lines 48-65).

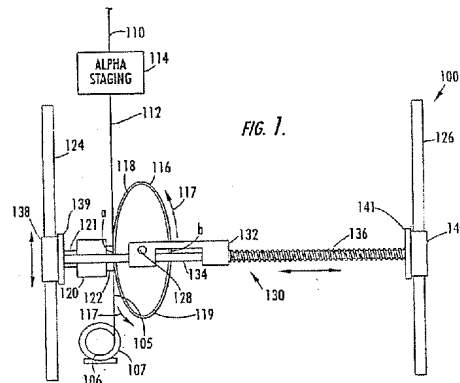
Applicants respectfully disagree. The portion of Fernyhough cited in the Action merely discusses several types of electromagnetic radiation that have been used for the curing of polymers. As illustrated in the drawing of Fernyhough, the UV lamps that cure the polymer are positioned before the winder (reproduced below). In addition, the cited portion of Fernyhough discusses that "the wicked fibers are exposed to ultraviolet (UV) radiation from UV lamps for cure, and then wound up by a winder." See, column 1, lines 42-44 of Fernyhough (cited in the Action (emphasis added)).



Therefore, Fernyhough teaches curing the fibers with UV radiation before winding the fibers on a winder. Applicants submit that Fernyhough does not teach or render obvious continuously shaping the first fiber-reinforced plastic article having the first partially cured state into a spirally wound shape, and then curing the fiber-reinforced plastic article having the first partially cured state to form a spirally wound fiber-reinforced plastic article having a second cured state as recited in Claim 8.

For example, as illustrated in Figure 1 of the current application, a pultrusion apparatus 100 includes an alpha-staging apparatus 114. In operation, a partially cured fiber-

reinforced plastic article 112 exits the alpha-staging apparatus 114 and is taken up on the mold 116. The mold 116 shapes the partially cured fiber-reinforced plastic article 112. An energy source 120 is operatively associated with the mold 116 and positioned so that the partially cured fiber-reinforced plastic article 112 is cured in a non-linear shape (i.e., spirally wound). Thus, a second cured state is achieved on the mold 116.



For at least these reasons, the recitations of Claim 8 are not disclosed or rendered obvious by Fernyhough. Applicant submits that the deficiencies of Fernyhough are not remedied by Schäper, which is cited as allegedly teaching drawing a fiber-reinforced plastic between the spiral grooves of a stator and rotor (*see* page 8 of the Action). Accordingly, Claim 8 and Claims 9-20 depending therefrom are patentable over Fernyhough and Schäper and Applicants request that the rejections under 35 U.S.C. §§ 102/103 be withdrawn.

#### **New Claims 42-43**

New Claims 42-43 depend from Claim 8 and are patentable for the reasons discussed above. In addition, Claims 42-43 are separately patentable for the reasons that follow.

Claim 42 recites that the curing step is performed when the fiber-reinforced plastic article is in the spirally wound shape. Claim 43 depends from Claim 42 and further recites that the curing step includes inputting energy into the fiber-reinforced plastic article. Applicants submit that Fernyhough and Schäper do not teach or suggest that the curing step is performed when the fiber-reinforced plastic article is in the spirally wound shape and that the curing step includes inputting energy into the article as recited in Claims 42-43. For at least

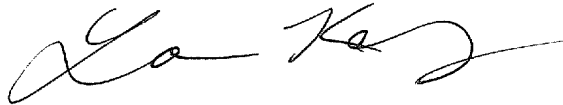
Attorney Docket No. 5470-286DV  
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these reasons, Applicants submit that Claims 42-43 are separately patentable and request an indication of same.

### CONCLUSION

Accordingly, Applicant submits that the present application is in condition for allowance and the same is earnestly solicited. Should the Examiner have any matters outstanding of resolution, he is encouraged to telephone the undersigned at 919-854-1400 for expeditious handling.

Respectfully submitted,

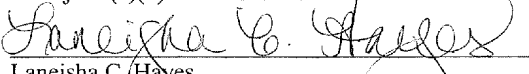


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Laneisha C. Hayes  
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